

METHOD OF PRODUCING SEMICONDUCTOR DEVICE AND
SEMICONDUCTOR DEVICE

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ABSTRACT OF THE DISCLOSURE

A semiconductor device able to secure electrical effective thicknesses required for insulating films of electronic circuit elements by using depletion of electrodes of the electronic circuit elements even if the physical thicknesses of the insulating films are not different, where gate electrodes of high withstand voltage use transistors to which high power source voltages are supplied contain an impurity at a relatively low concentration, so the gate electrodes are easily depleted at the time of application of the gate voltage; depletion of the gate electrodes is equivalent to increasing the thickness of the gate insulating films; the electrical effective thicknesses required of the gate insulating films can be made thicker; and the gate electrodes of high performance transistors for which a high speed and large drive current are required do not contain an impurity at a high concentration where depletion of the gate electrodes will not occur, so the electrical effective thickness of the gate insulating films is kept thin.

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